

Fig. 1

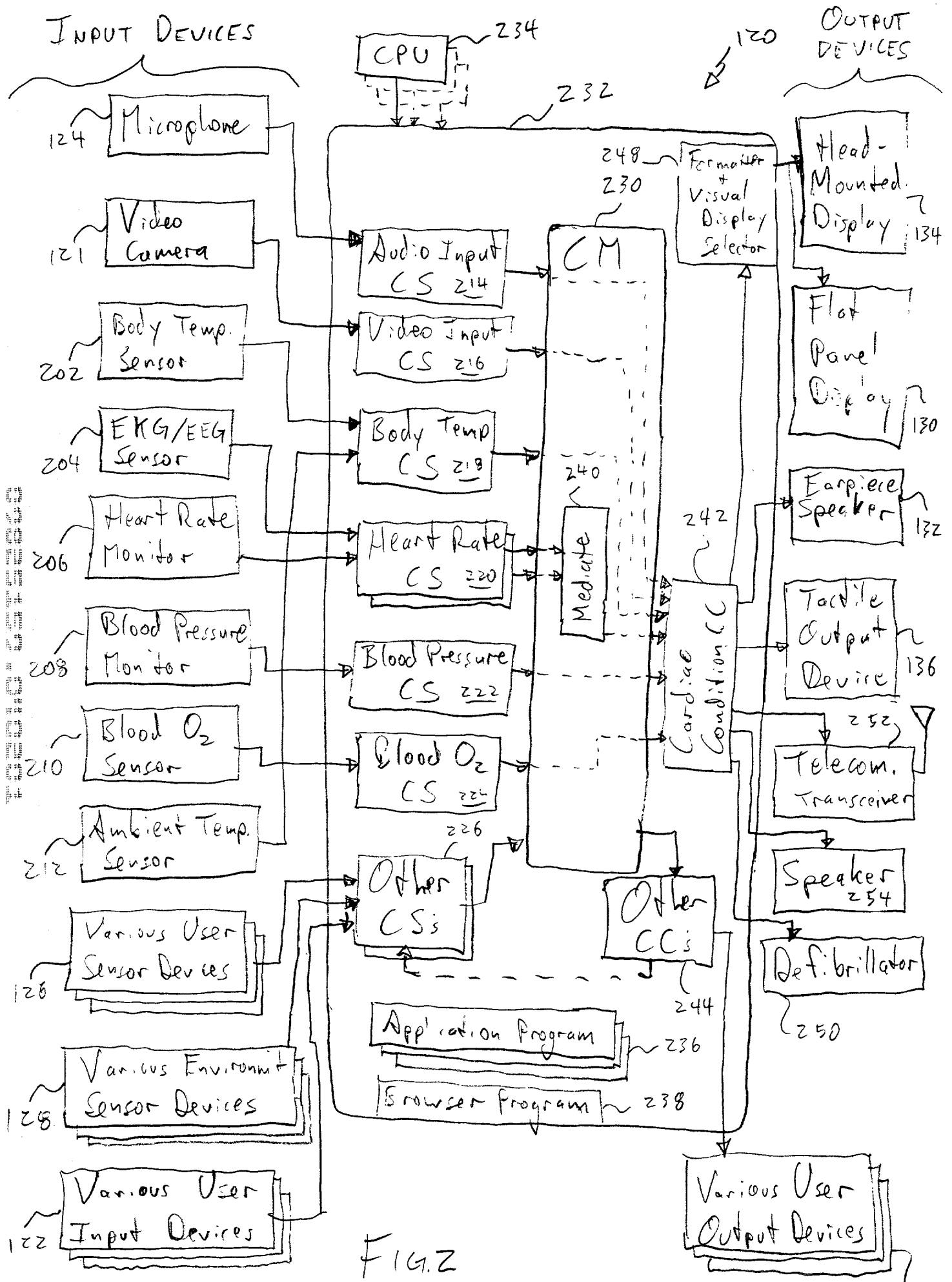


FIG. 2

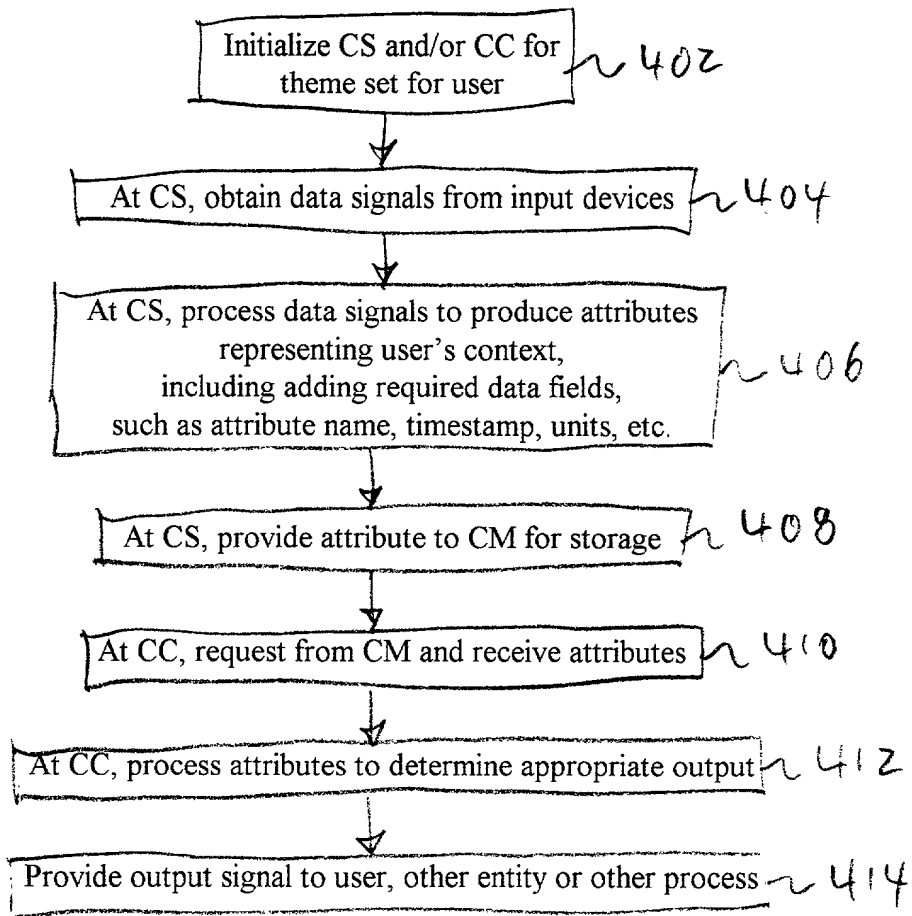


FIG 4

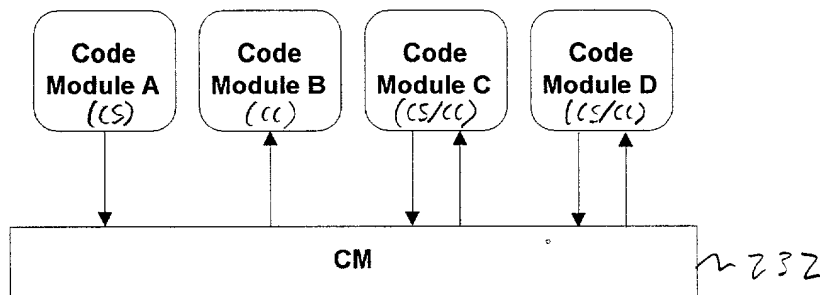


FIG 3

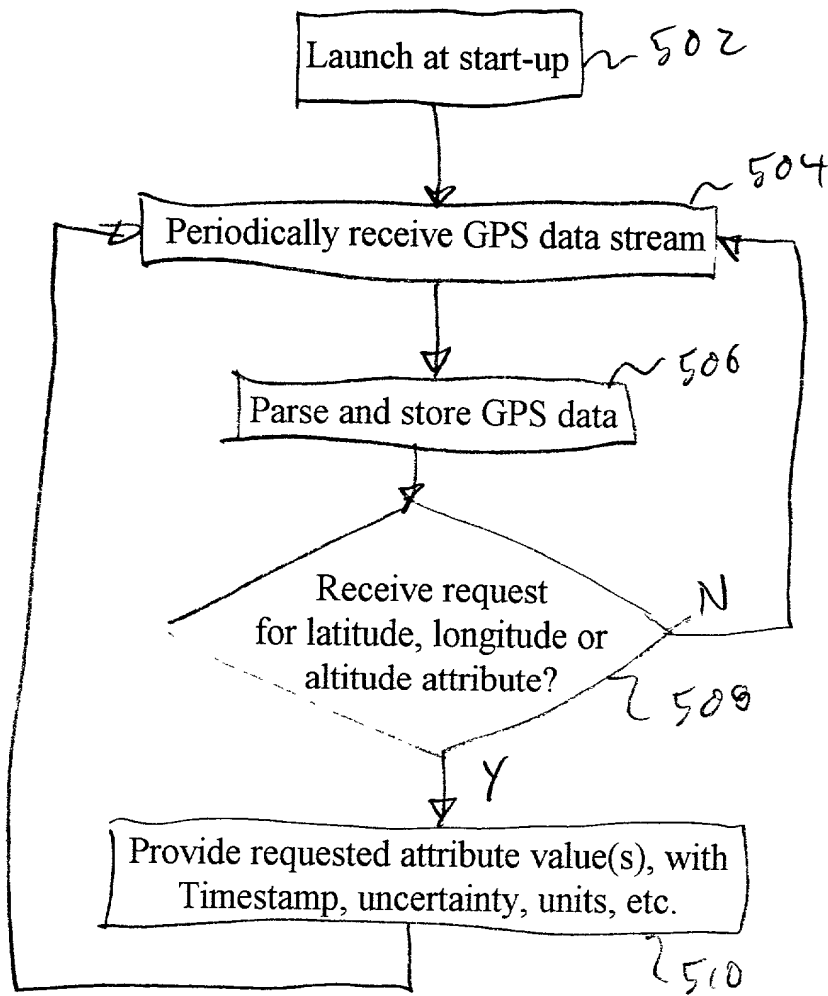


FIG 5A

Name	521
Latitude (Value)	522
Uncertainty	524
Timestamp	526
Units	528
Format Version/Flags	530

520

FIG 5B

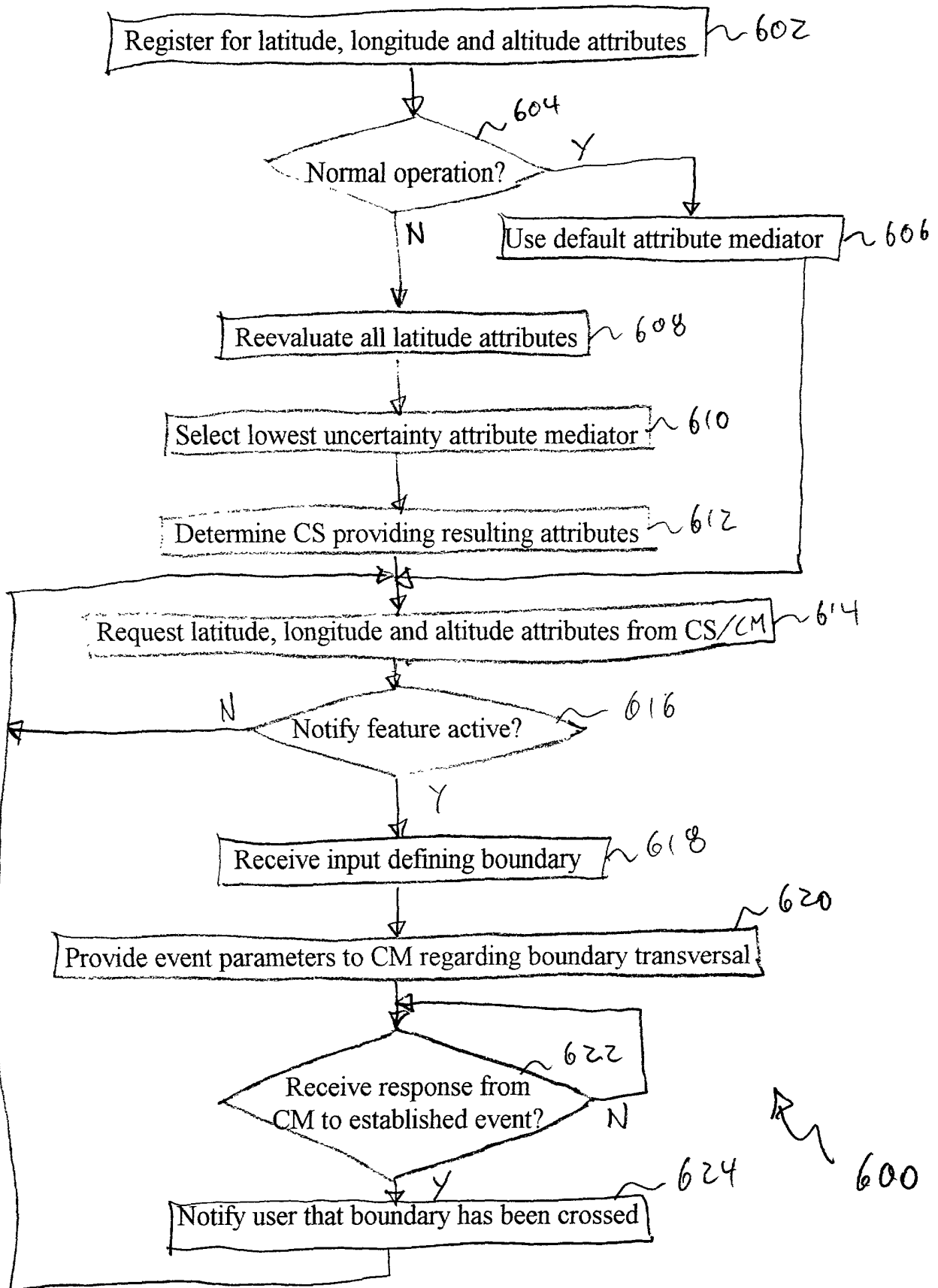


FIG 6

704

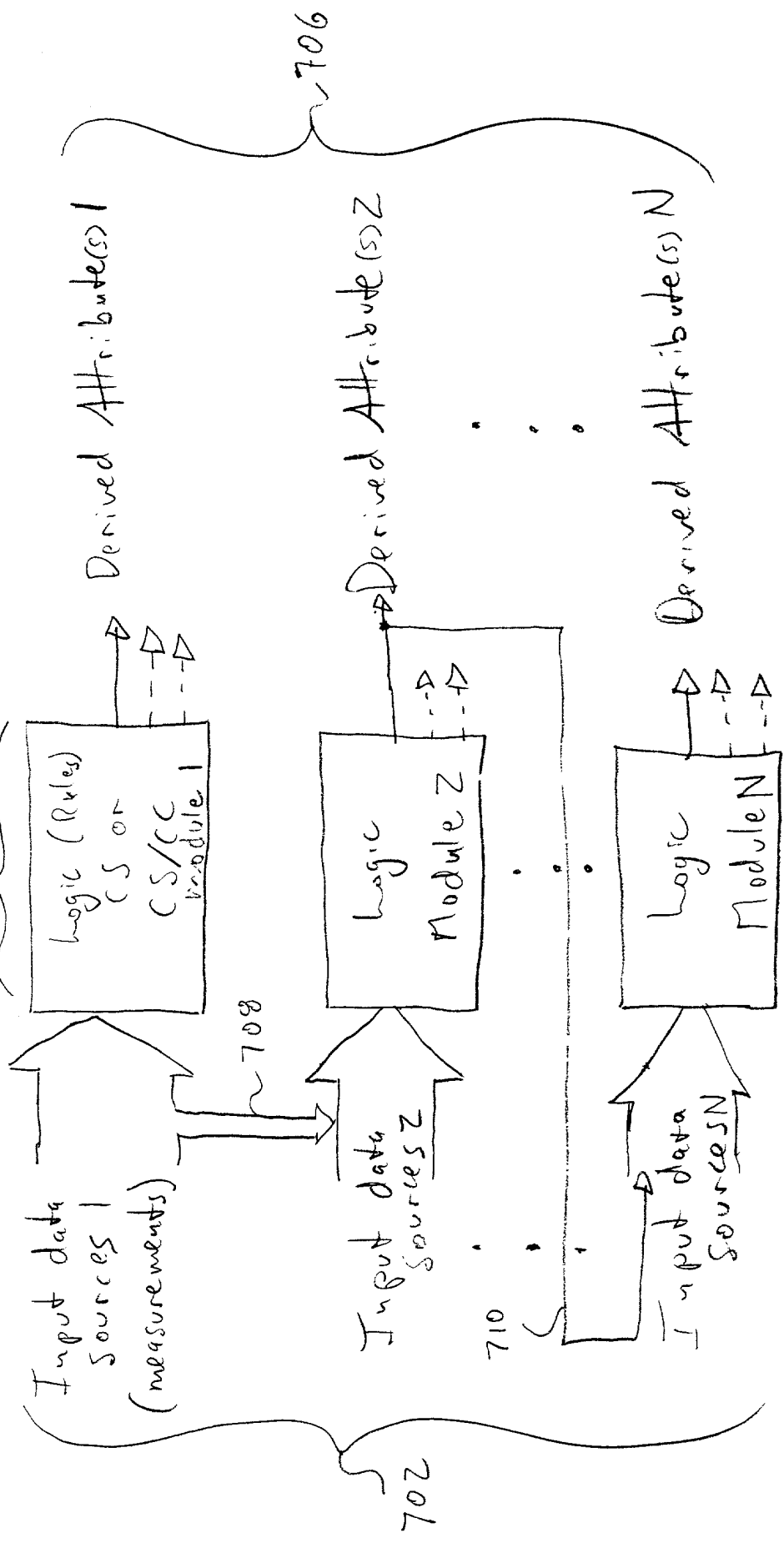


FIG 7

User.

Desired_privacy_level
 Interruptibility
 Speed
 Direction
 Acceleration
 Availability.
 Cognitive_availability
 Tactile_availability
 Manual_availability
 Visual_availability
 Oral_availability
 Auditory_availability
 Proximity.<Item or place name>
 Mood.

Happiness
 Sadness
 Anger
 Frustration
 Confusion

Activity.

Driving
 Eating
 Running
 Sleeping
 Talking
 Typing
 Walking

Location.

Place_name
 Latitude
 Longitude
 Altitude
 Room
 Floor
 Building
 Address
 Street
 City
 County
 State
 Country
 Postal_Code

Destination. (same as User.Location.)

Physiology.

Pulse
 Body_temperature
 Blood_pressure
 Respiration

Person.<name or ID>. (same as User.)

Platform.**UI.**

Oral_input_device_availability
 Manual_input_device_availability
 Tactile_output_device_availability
 Visual_output_device_availability
 Auditory_output_device_availability

Platform. (continued)**CPU.**

Load
 Speed

Memory.

Total_capacity
 Used

Storage.

Total_capacity
 Used

Connectivity.

Connection_status
 Connection_speed
 Connection_type/device
 Connection_activity

Power.

Power_source
 Power_level

Environment.**People.**

Nearest
 Number_present
 Number_close

Local.

Time
 Date
 Temperature
 Pressure
 Wind_speed
 Wind_direction
 Absolute_humidity
 High_forecast_temperature
 Low_forecast_temperature
 People_present
 Ambient_noise_level
 Ambient_light_level
 Days.<previous or future>.
 High_temperature
 Low_temperature
 Precipitation_type
 Precipitation_amount

Place.<place name>. (same as Environment.Local)

Application.**Mail.**

Available
 New_messages_waiting
 Messages_waiting_to_be_sent

Phone.

Available
 In_use
 On/off
 Notification_mechanism
 Call_incoming
 Caller_ID

Sound_recorder.

Available
 Recording

User Setting

Mental Context

Meaning

Cognition

Divided User Attention

Task Switching

Background Awareness

Solitude

Privacy

Desired Privacy

Perceived Privacy

Social Context

Affect

Physical Situation

Body

Biometrics

Posture

Motion

Physical Encumbrment

Senses

Eyes

Ears

Tactile

Hands

Nose

Tongue

Workload demands/effects

Interaction with computer devices

Interaction with people

Physical Health

Environment

Time/Space

Objects

Persons

Audience/Privacy Availability

Scope of Disclosure

Hardware affinity for privacy

Privacy Indicator for User

Privacy Indicator for Public

Watching Indicator

Being Observed Indicator

Ambient Interference

Visual

Audio

Tactile

Computer

Power

Configuration

User Input Systems

Hand/Haptic

Keyboard/Keystrokes

Voice/Audio

Eye Tracking

Cursors

Axis

Resolution

Selection

Invocation

Accelerators

Output Systems

Visual

Resolution

Audio

Public/Private

Haptic

External Resources

I/O devices

Connectivity

Data

Quantity/State

Urgency/Importance

Use of Prominence

Modality

Sensitivity/Purpose

Privacy Issues

Use of Association

Use of Safety

Source/Ownership

Types

User generated

Other computers or people

Sensor

PC State

Use of Association

FIG 9

Various Content 1070

Thematic Response
Computing Device 1000

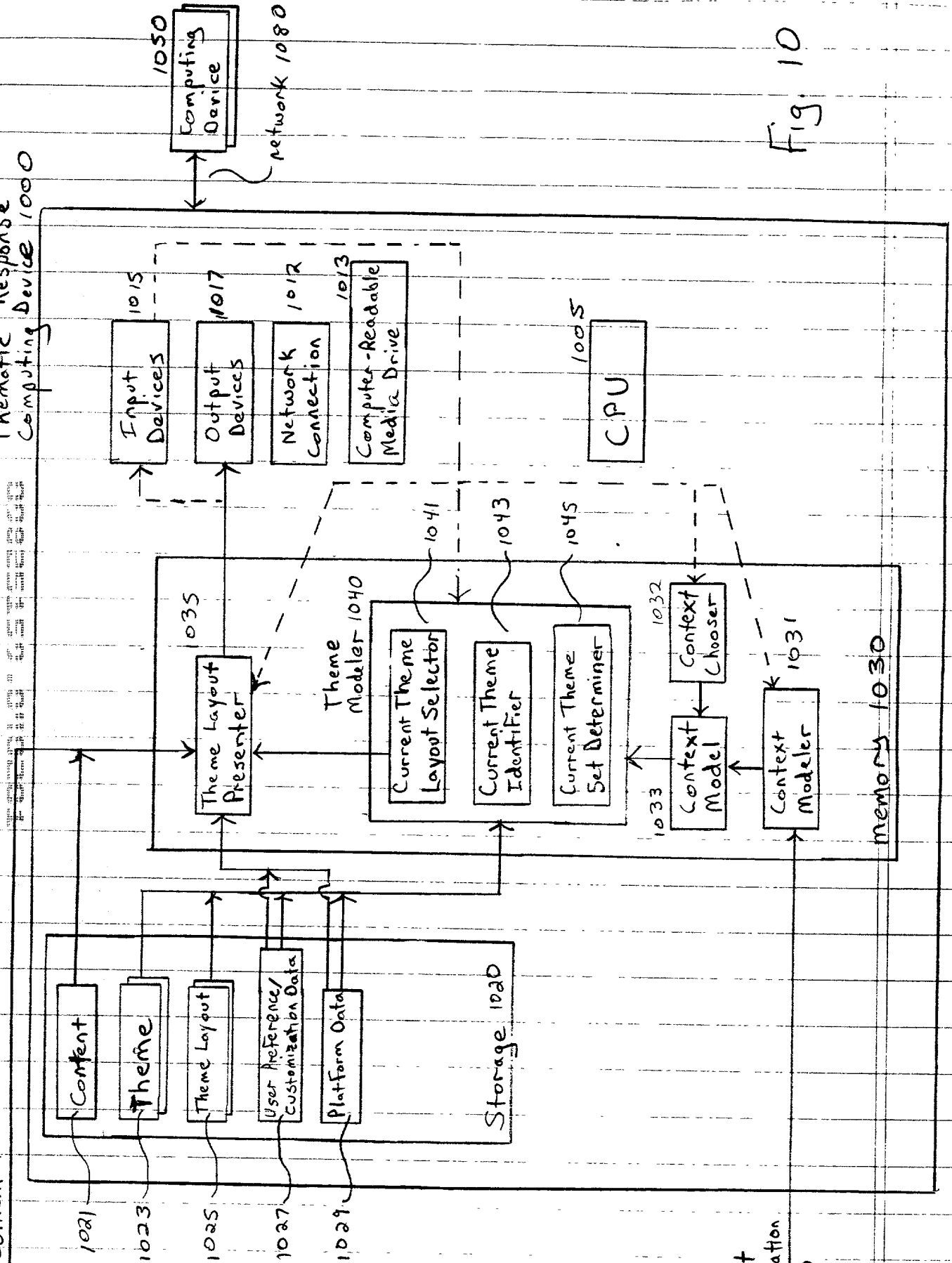


Fig. 10

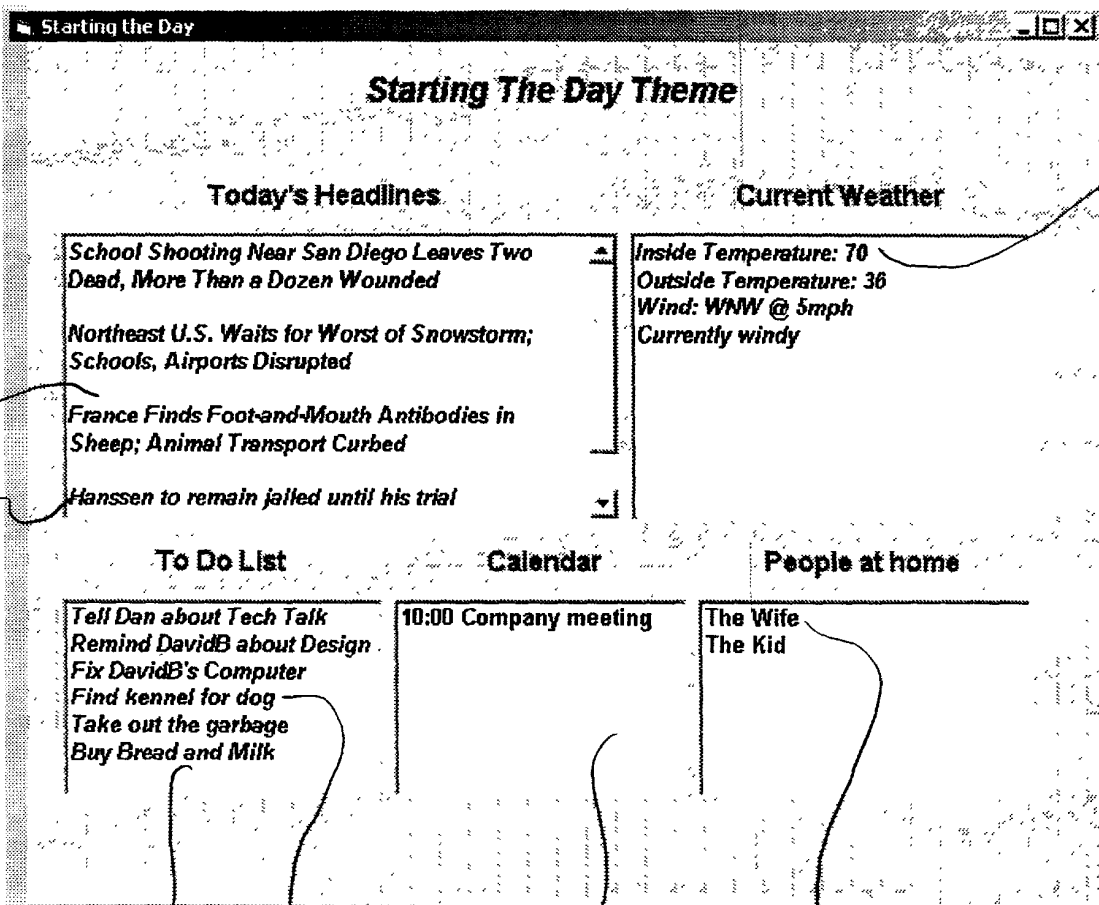


Fig. 11A

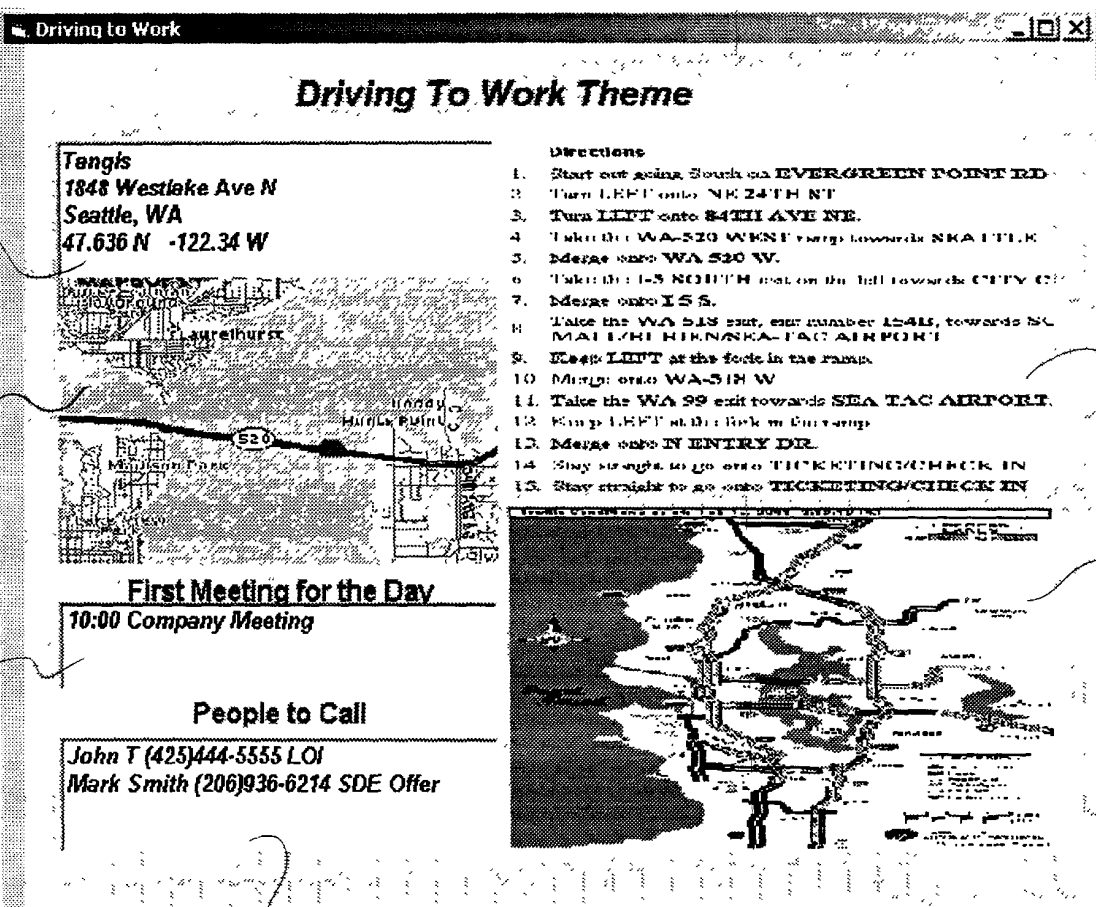


Fig. 11B

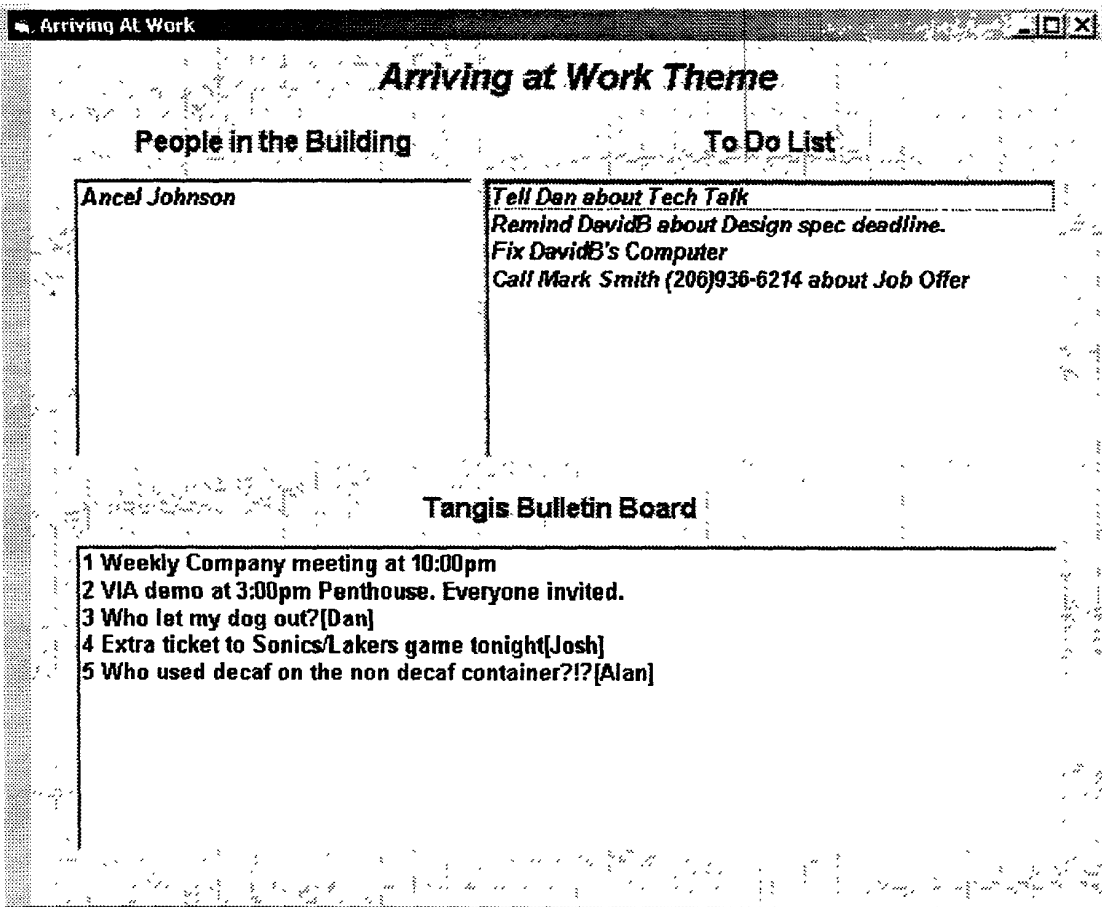


Fig. 11C

At Work

At Work Theme

Calendar

8^{am}

9⁰⁰

10⁰⁰

11⁰⁰

12^{pm}

1⁰⁰

2⁰⁰

3⁰⁰

4⁰⁰

Company Meeting

VIA Demo

To Do List

Tell Dan about Tech Talk

Remind DavidB about Design spec deadlin

Fix DavidB's Computer

See Bill about networking problems

Call Mark Smith (206)936-6214 about SDE

People Around You

Bill Watson

Alan Housley

Dorothy B.

1130

Fig. 11D

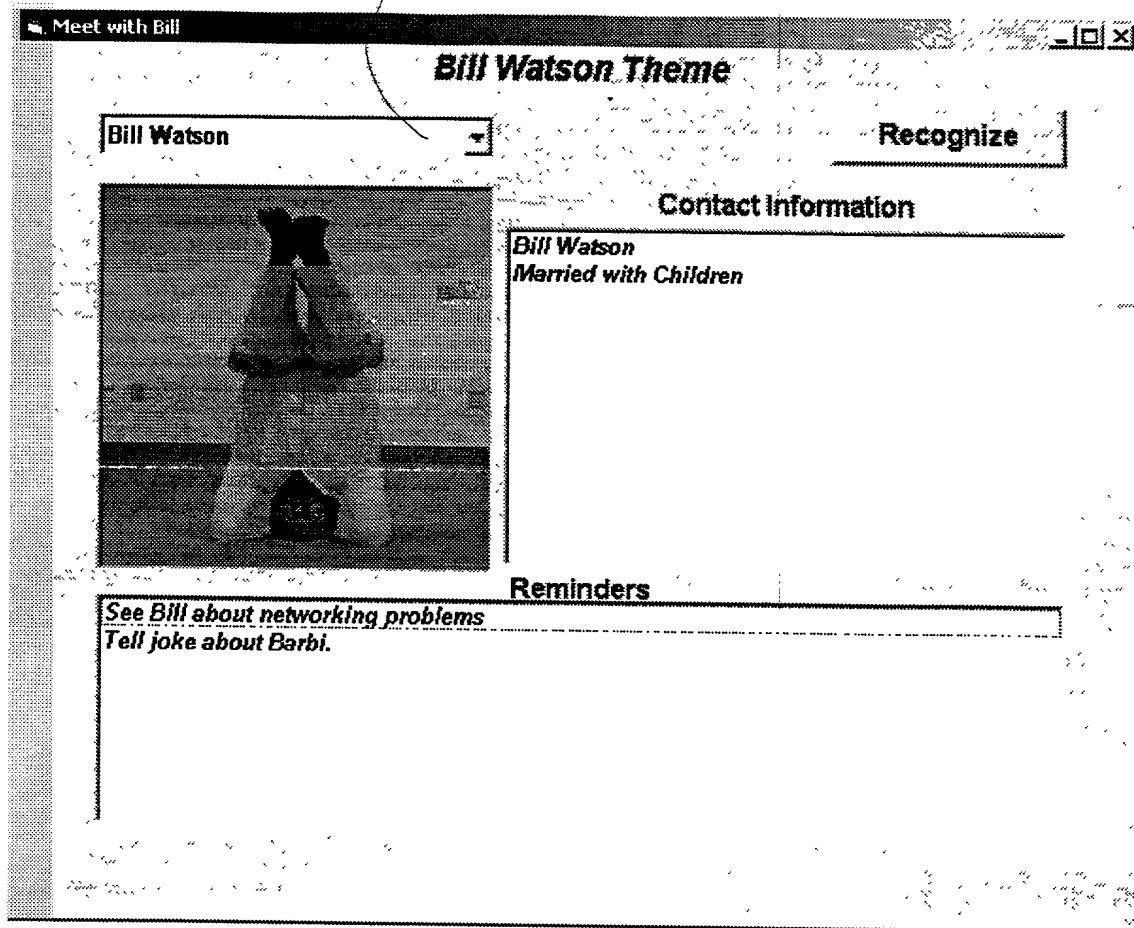


Fig. 11E

Company Meeting

Meeting Theme

Things to bring up	People Present
<p>Tell group what you did last week</p> <p>Tell group what you plan to do this week</p> <p>Tell group about your new invention.</p> <p>Tell group about your upcoming skiing trip.</p> <p>Kudos for Stan and Dorothy for finishing report</p>	<p>Aaron Graves</p> <p>Alan Housley</p> <p>Ancel Johnson</p> <p>Bill Watson</p> <p>Brian Rose</p> <p>Cesar Alvarez</p> <p>Dan Newell</p> <p>David Jukes</p> <p>Dorothy B.</p> <p>Jaquie T.</p> <p>Jeff Fried</p> <p>Jim Roberts</p> <p>Johnson A.</p> <p>Josh Freedman</p> <p>Kanisha Patel</p> <p>Ken Abbott</p> <p>Lisa Davis</p> <p>Molly Fitch</p> <p>Scott Price</p> <p>Stan Emert</p>
<p>Notes</p> <p>Finished coding Turing Machine on Monday.</p> <p>Did bug bash on Tuesday.</p> <p>Survived an earthquake on Wednesday.</p> <p>Worked on CTK demo rest of last week</p> <p>Continuing work on CTK demo rest of this week</p>	

1137

Fig. 11F

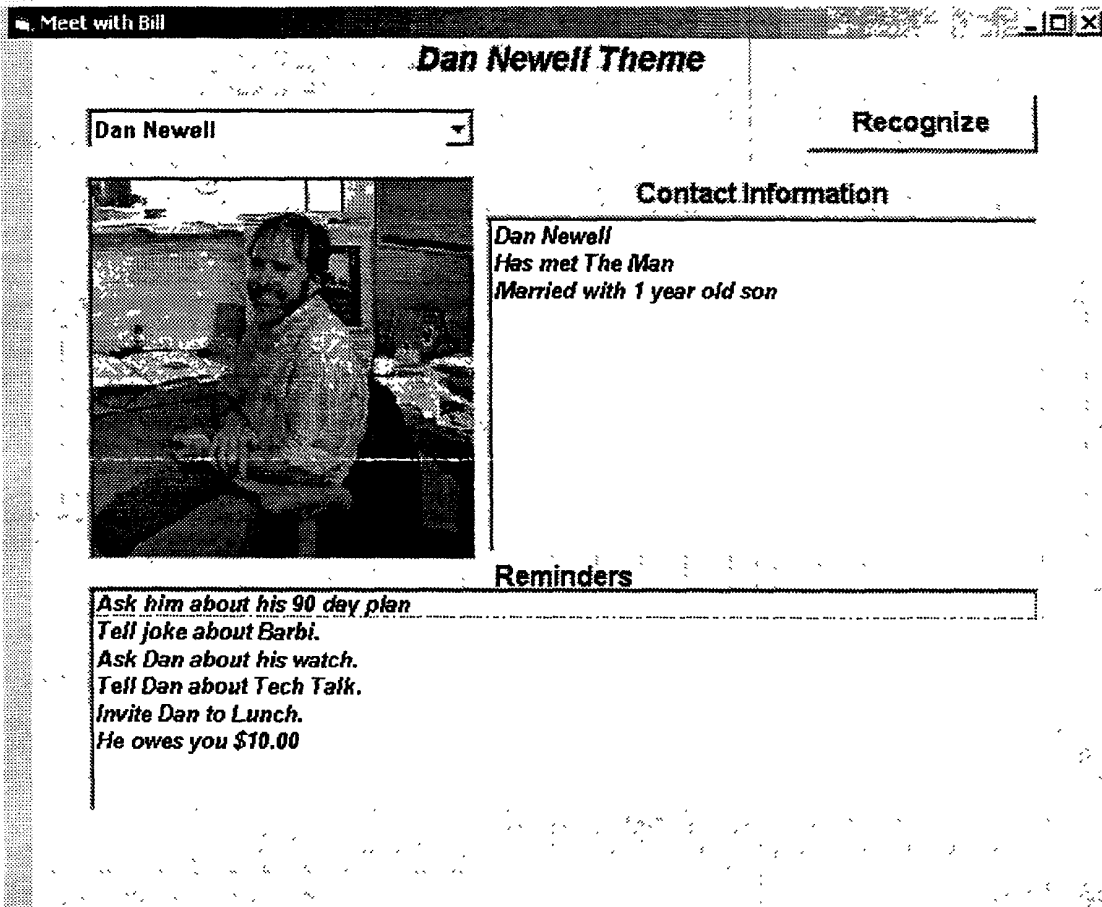


Fig. 11G

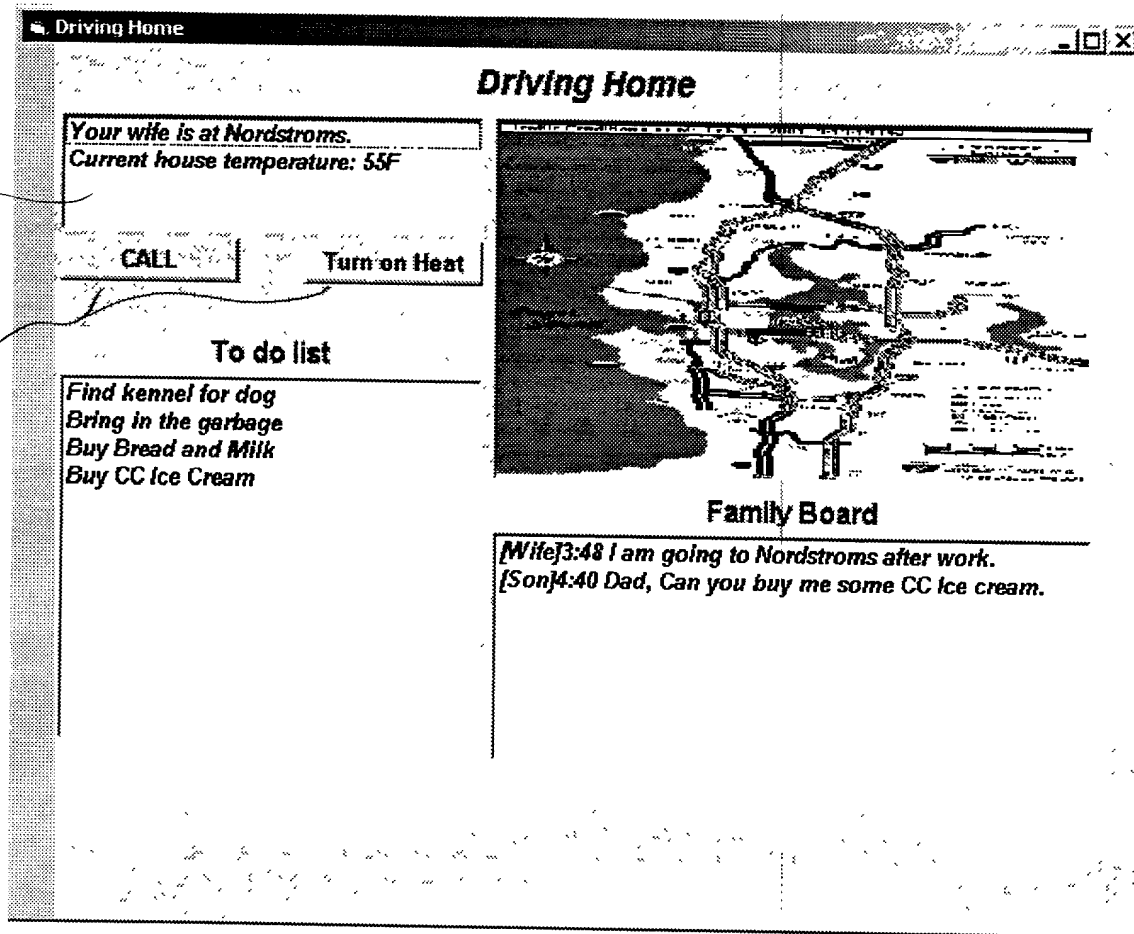
Repairing a PC

Repairing a PC Theme

Computer Equipment: **Josh's Computer**

Description	Notes
Dell XPS 4000 Purchase Date: 11/20/2000 Tangis Tag: PC001	Currently inoperative Josh noticed a loud noise coming from the hard disk. He said it might be a problem with the disk's brake pads. If he mentions this again, humor him.
Software Installed Office 2000 Visual Studios 6.0 MS Entertainment Pack Boeing Marketing Tutorial: How to talk like a techie	
Hardware Installed Creative Sound Blaster 10.0 card Ricoh 32X CDRW MS USB Microphone Intel TR1688 100Mbps Token Ring	

Fig. 11 I



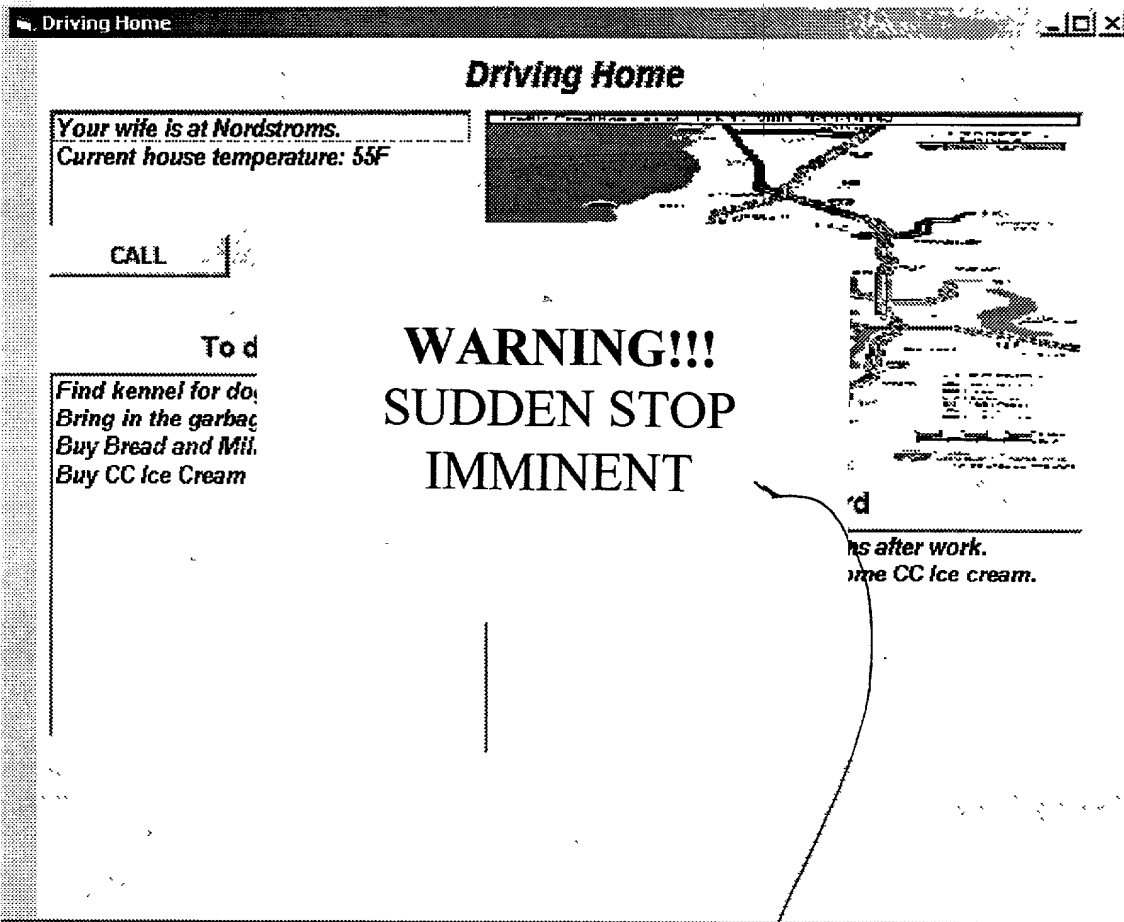


Fig. 11K

1190

Arriving Home	
To do list Find kennel for dog. Bring in the garbage. Help Junior with Homework.	What's on TV 07:00 Komo TV Local News (4) 07:30 Wall Street Week (9) 08:00 Survivor III (7) 09:00 X-Files (13) 10:00 Big Apple (7)
Family Board [Spouse]3:48 I am going to Nordstroms after work. [Son]4:40 Dad, Can you buy me some CC ice cream. [Spouse]5:15 I'll be home at around 6:30. Get dinner. [You]5:15 Sure Son. [You]6:00 I'm home.	People At Home The Wife The Kid

Fig. 11L

Example Current Theme Selection

Select A New Current Theme

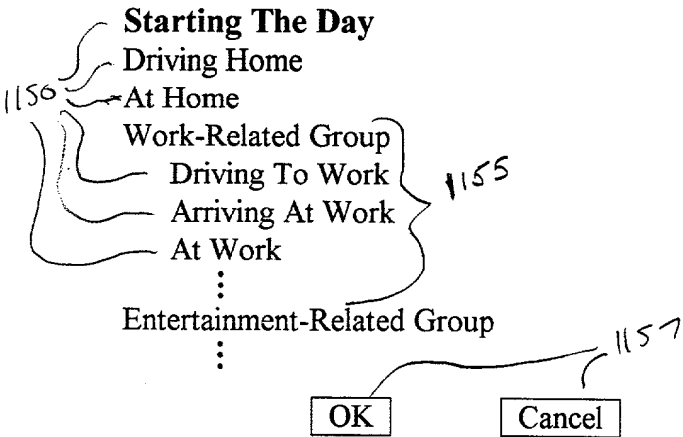


Figure 11M

Example Current Theme Set Modification

Current Theme Set

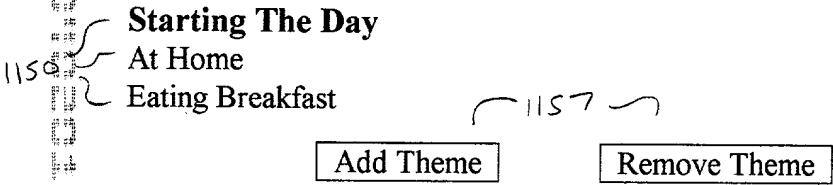


Figure 11N

Example Current Theme Layout Selection

Select A New Current Theme Layout

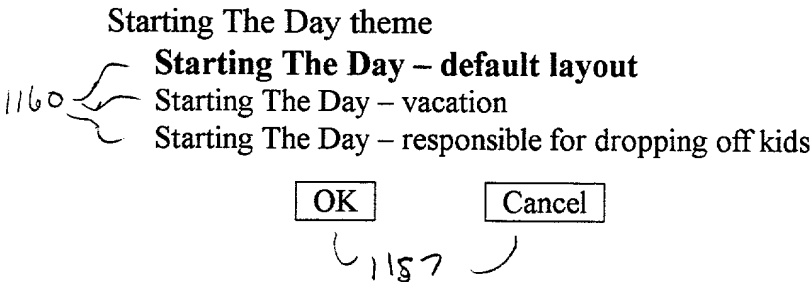


Figure 11O

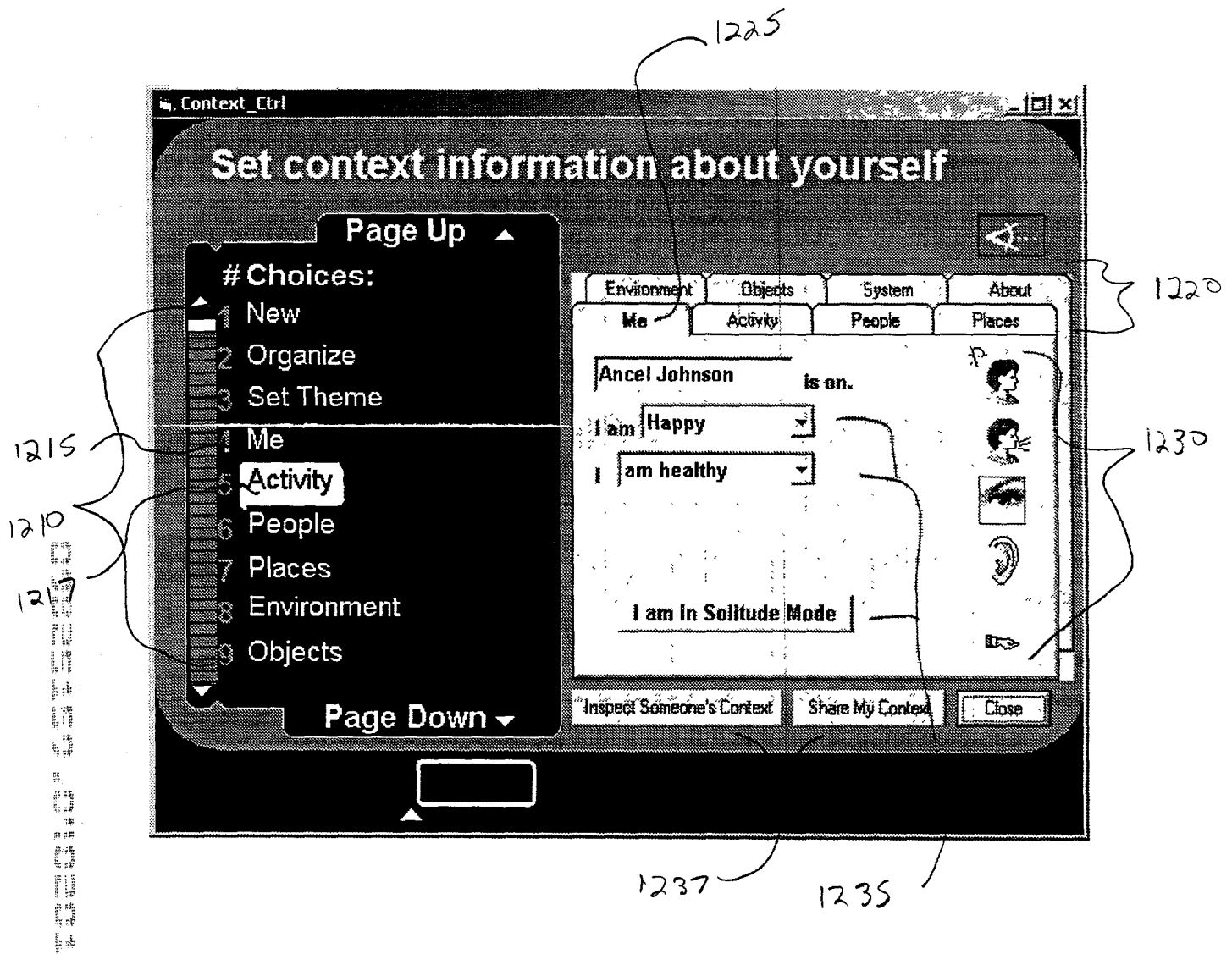


Fig. 12A

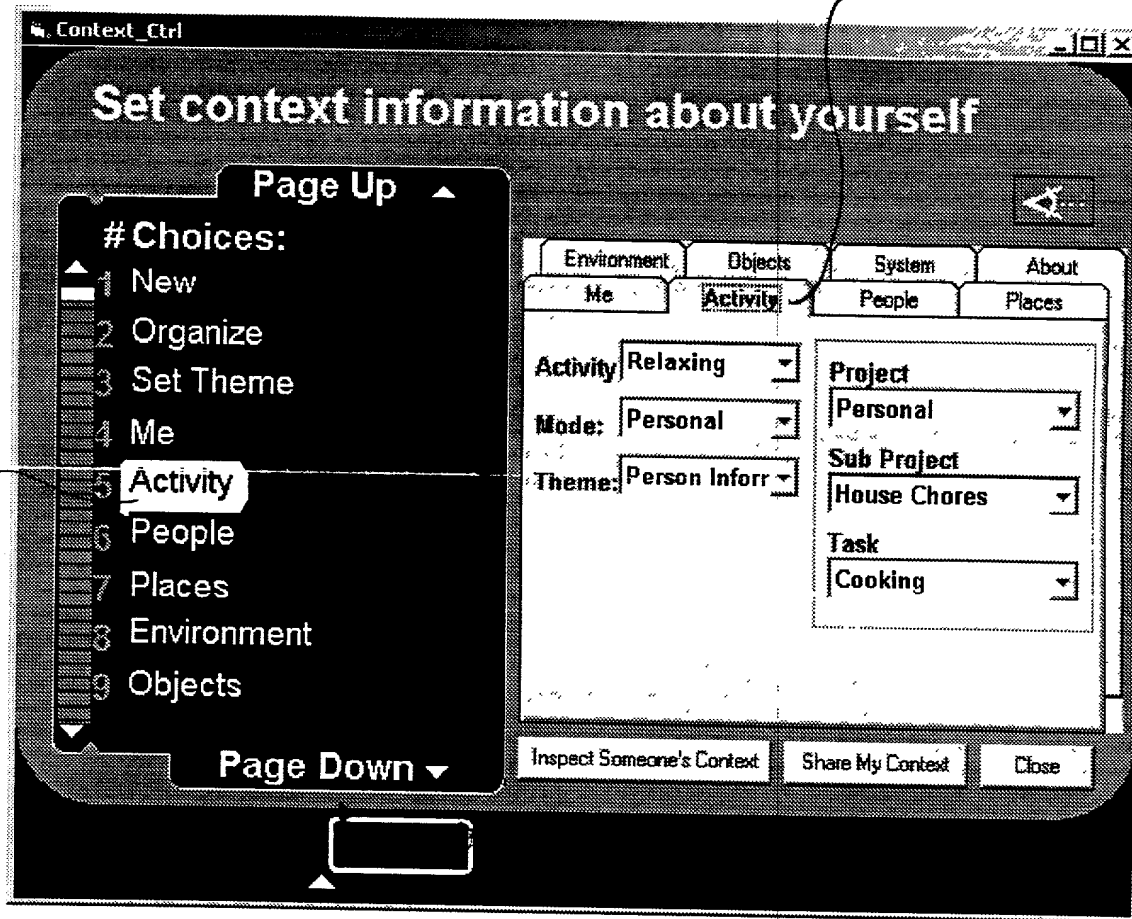


Fig. 12B

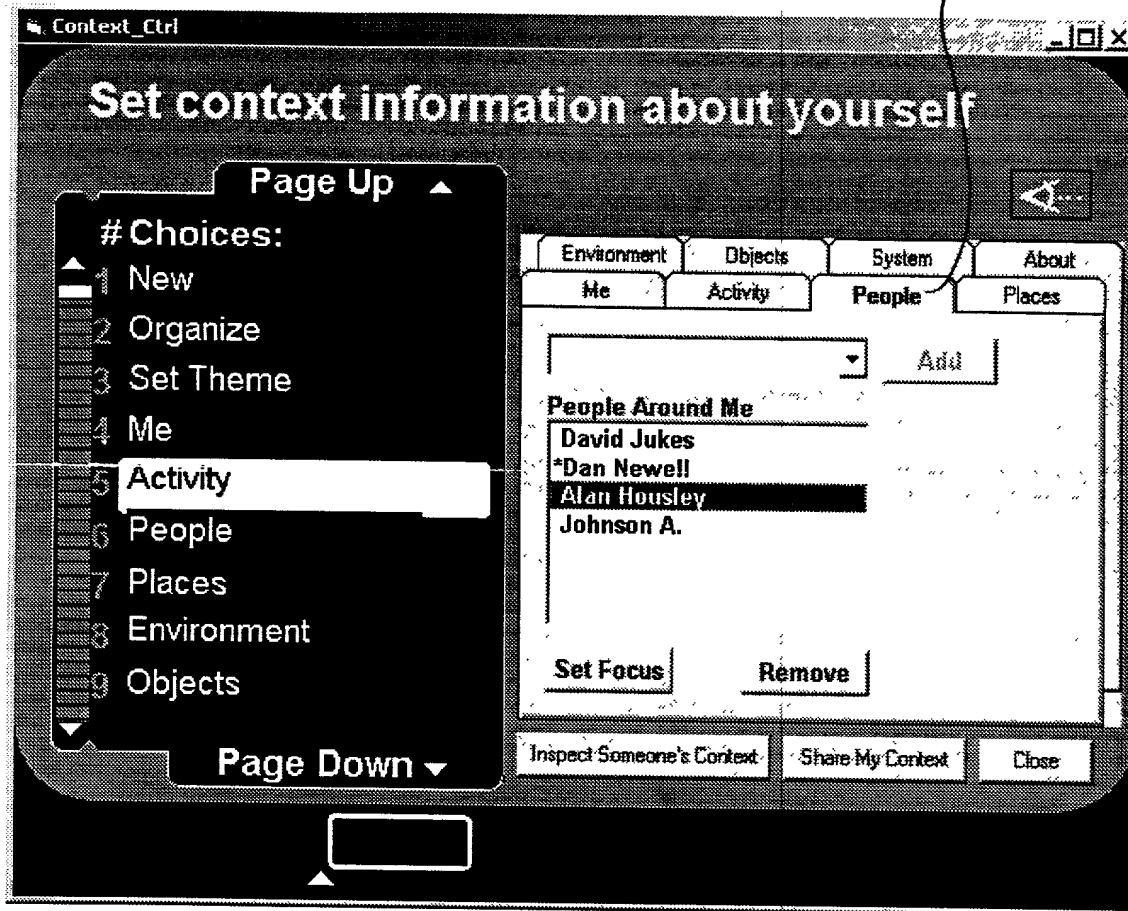


Fig. 12C

Context_Ctrl

Set context information about yourself

Page Up ▲

Choices:

- 1 New
- 2 Organize
- 3 Set Theme
- 4 Me
- 5 Activity
- 6 People
- 7 Places
- 8 Environment
- 9 Objects

Page Down ▼

Environment Objects System About

Me Activity People Places

Location Jim's office

LAT 47.636 N LONG -122.34 W

room
1848 Westlake Ave N
Seattle, WA

Destination Tangis

Inspect Someone's Context Share My Context Close

1242

Fig. 12D

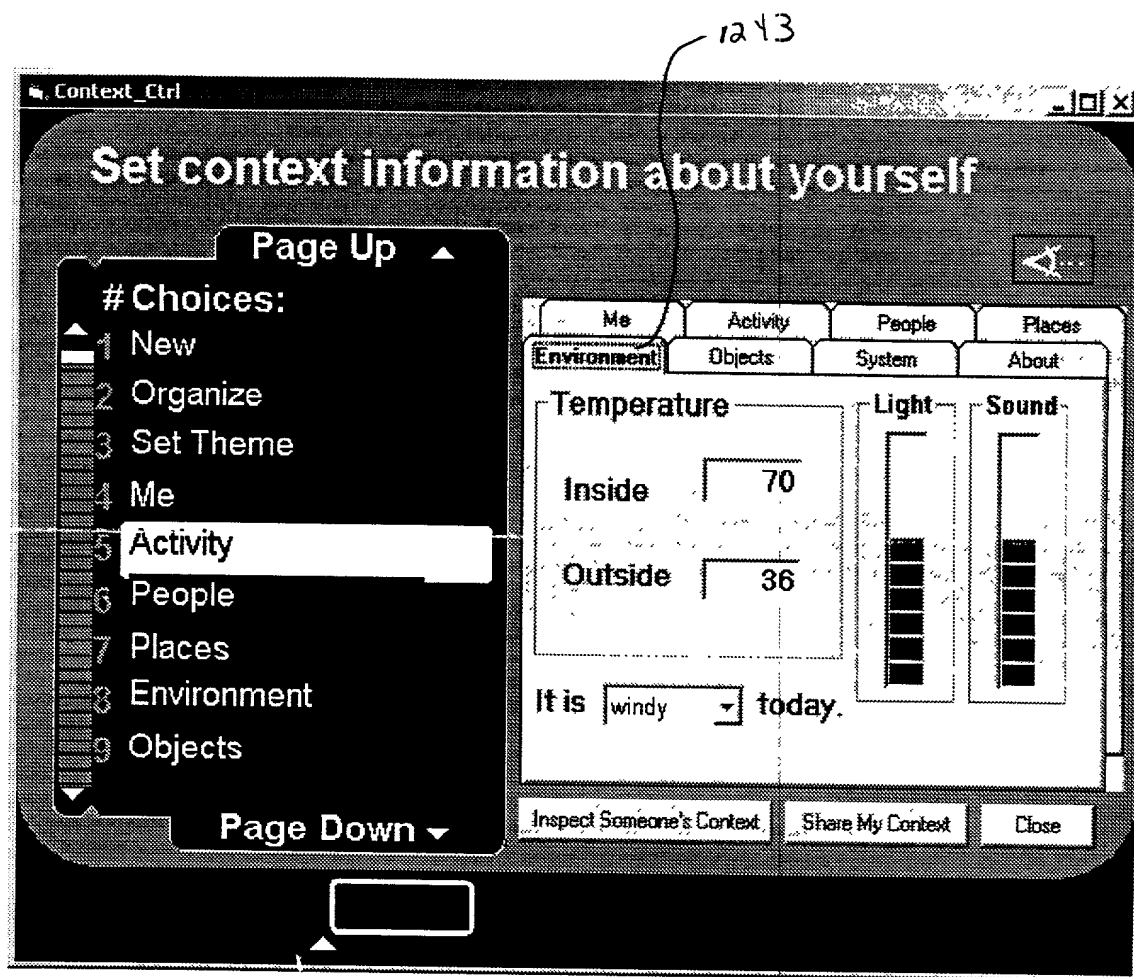


Fig. 12E

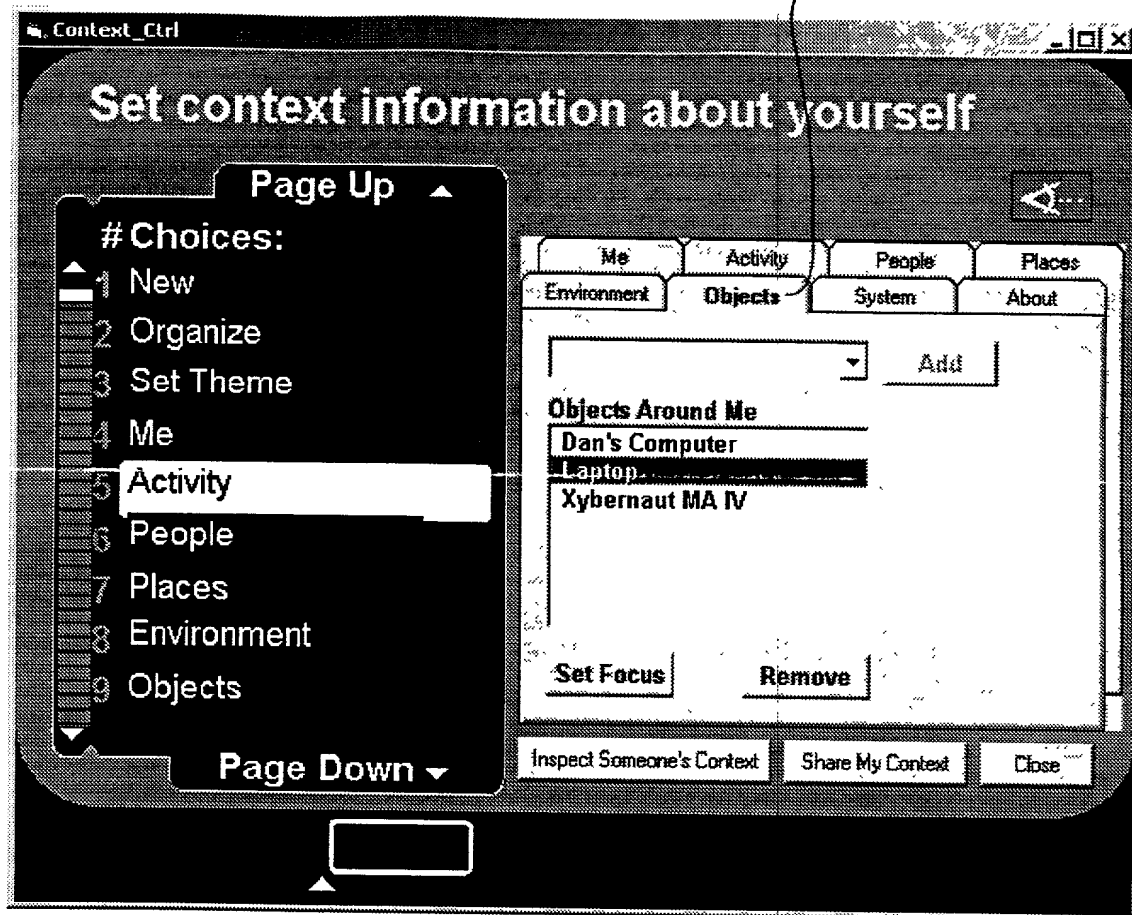


Fig. 12F

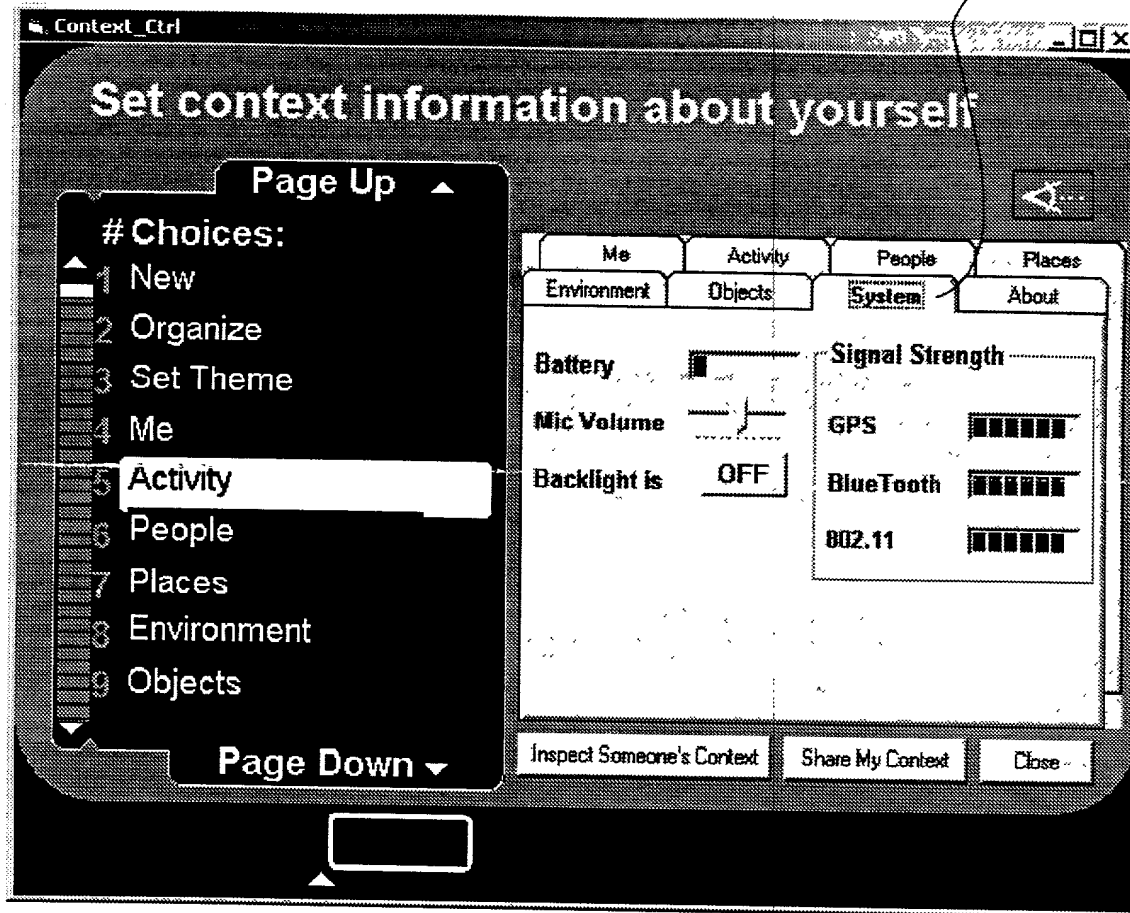


Fig. 12G

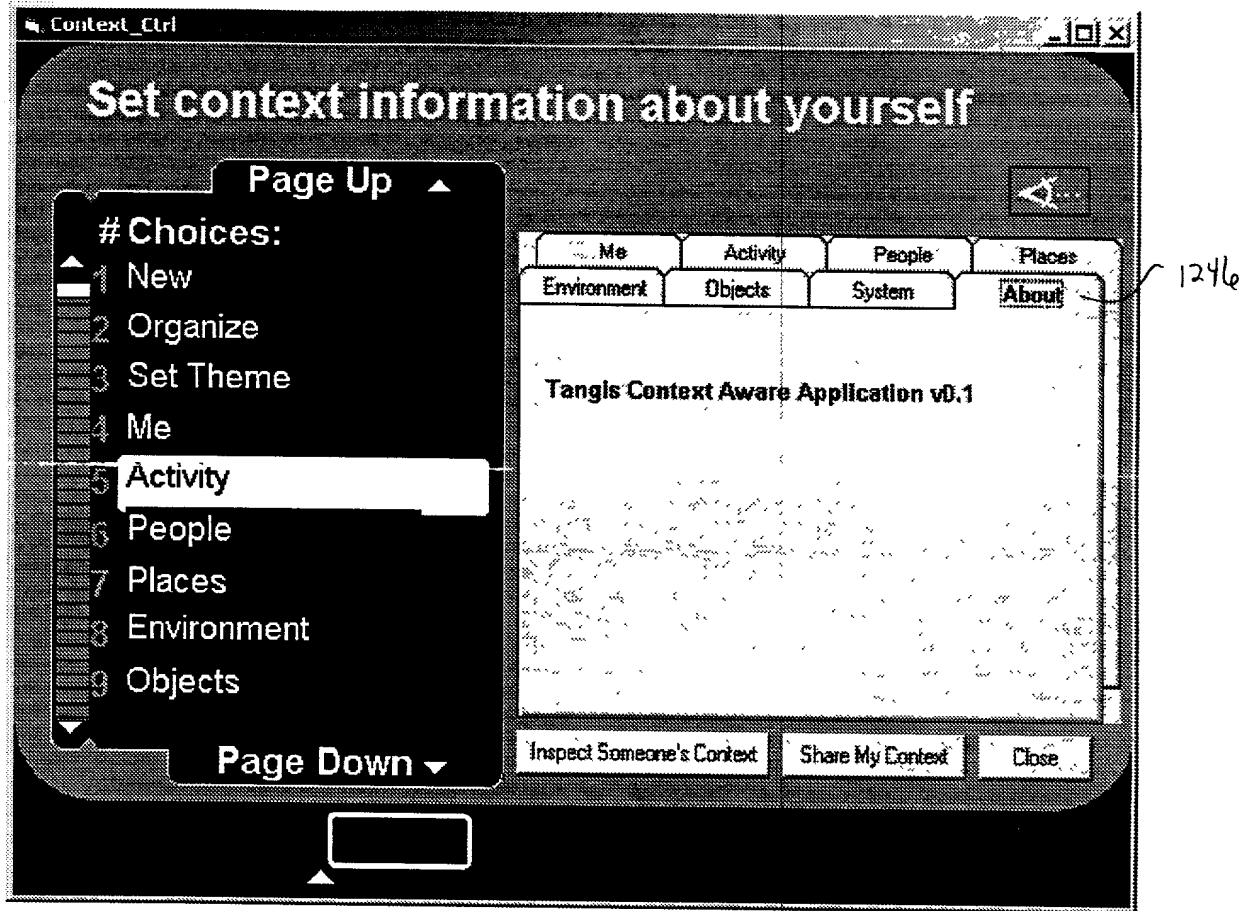


Fig. 12H

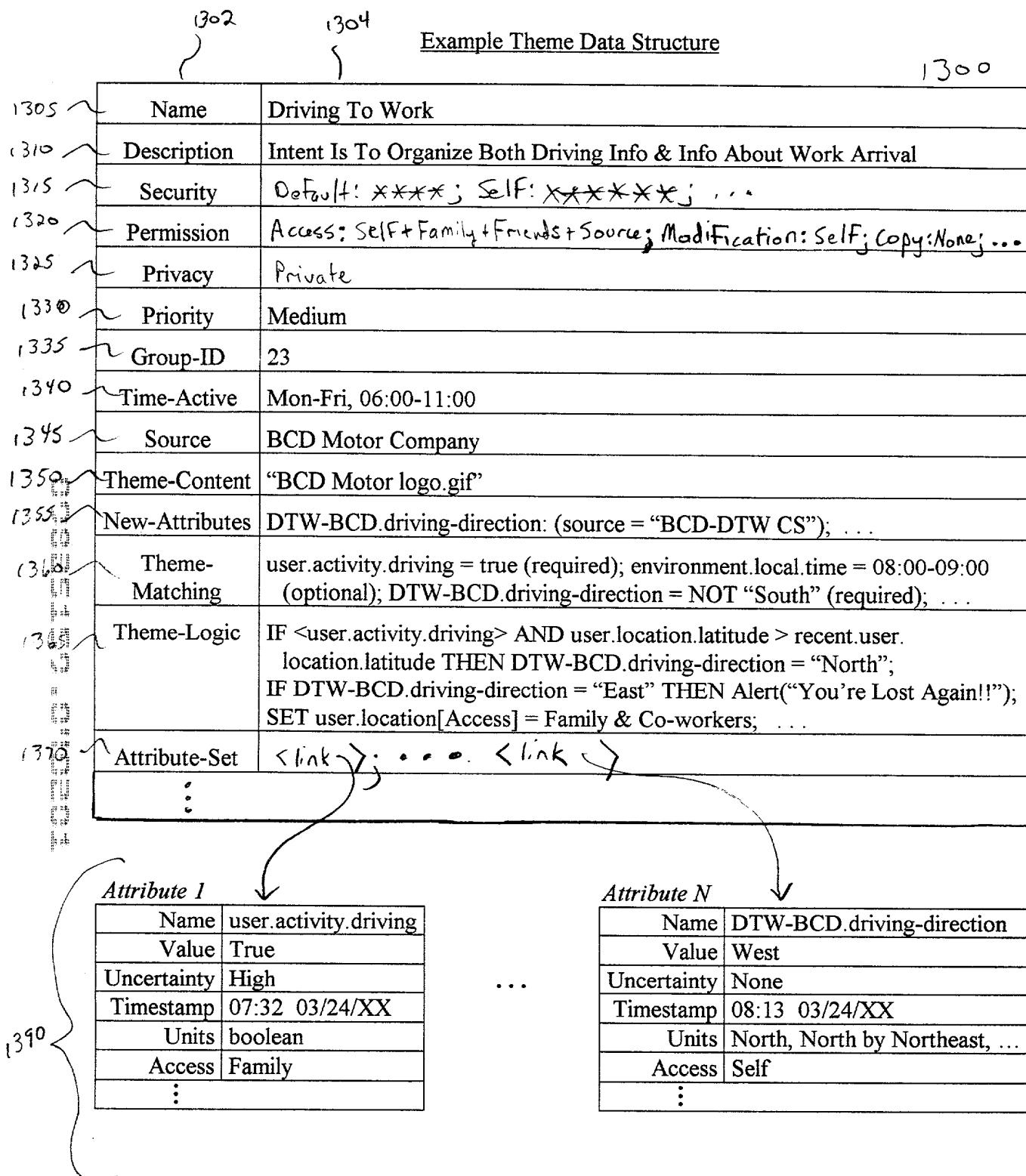


Figure 13

Theme Server computing device 1400

Theme User computing device 1450

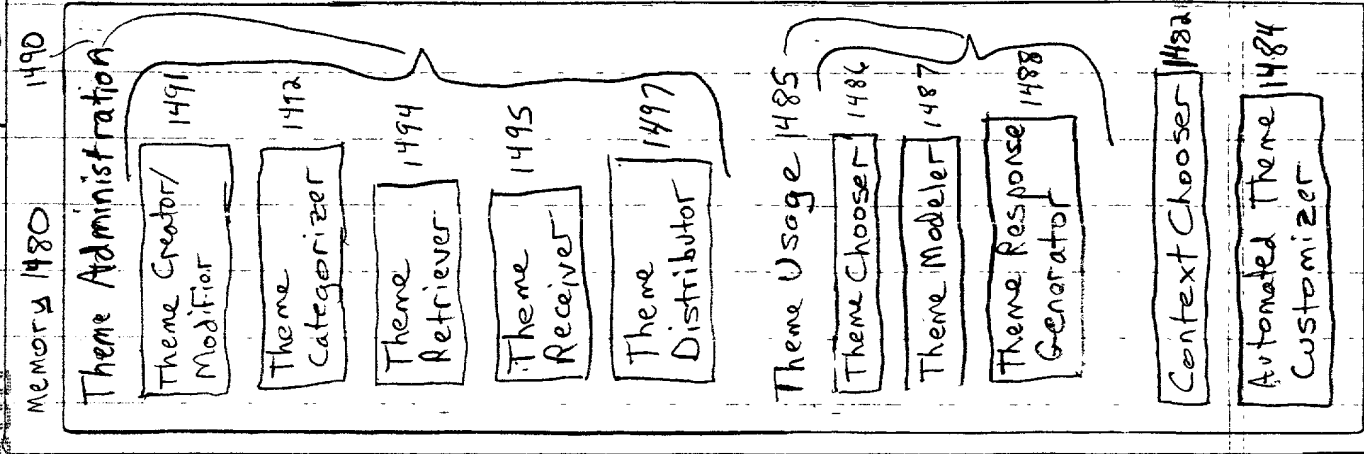
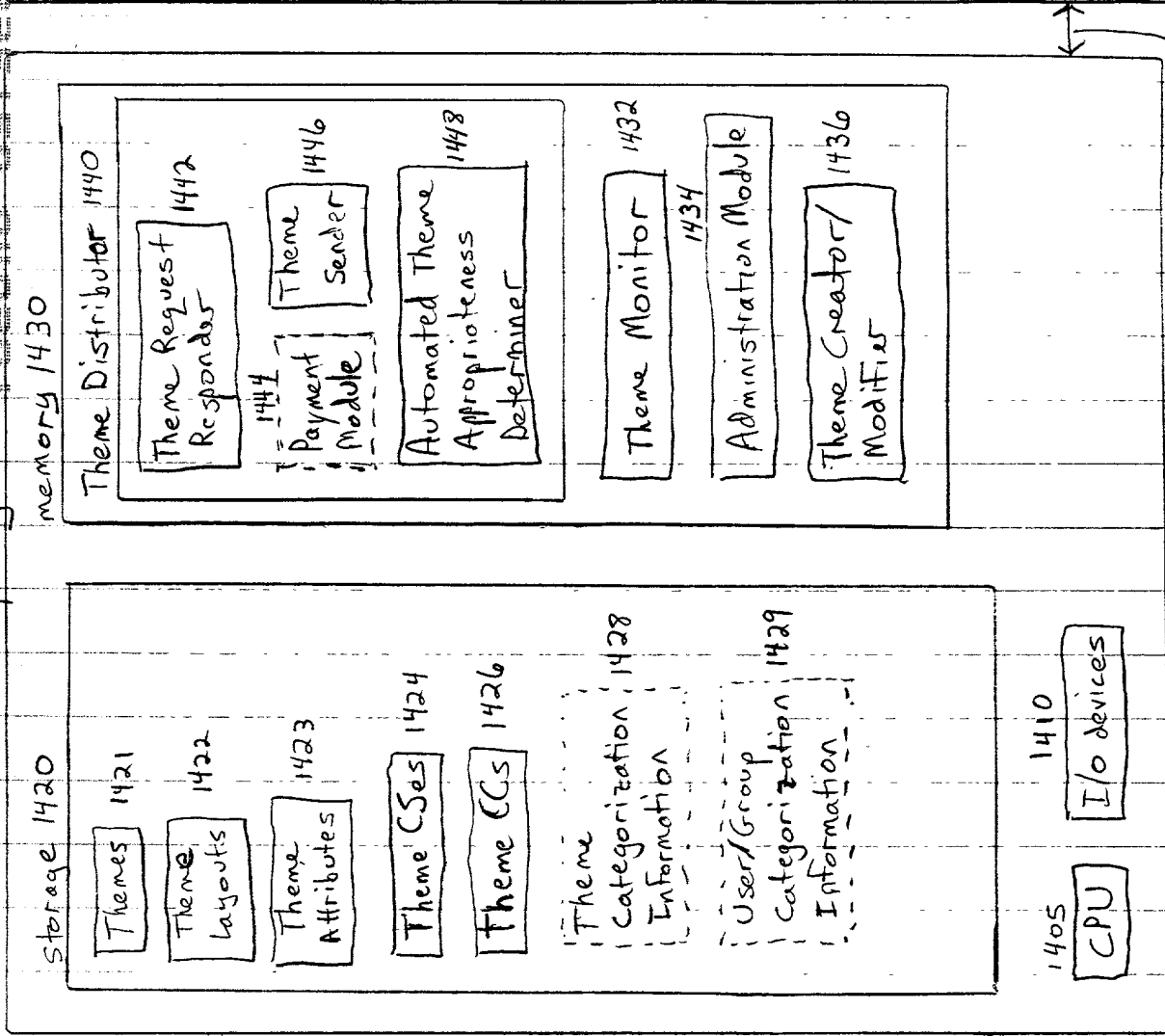


Fig. 14

network 1465

Fig. 15

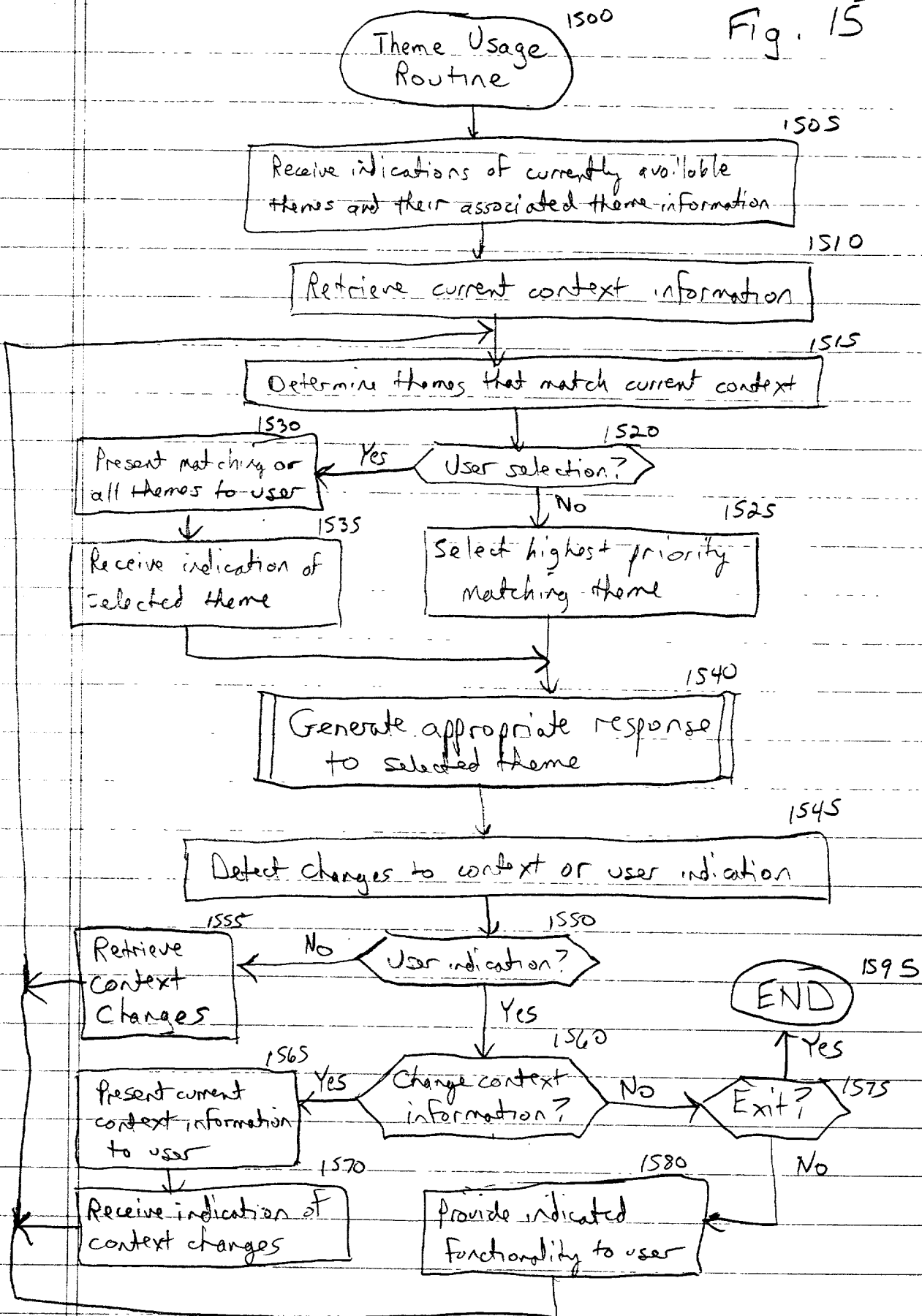


Fig. 16

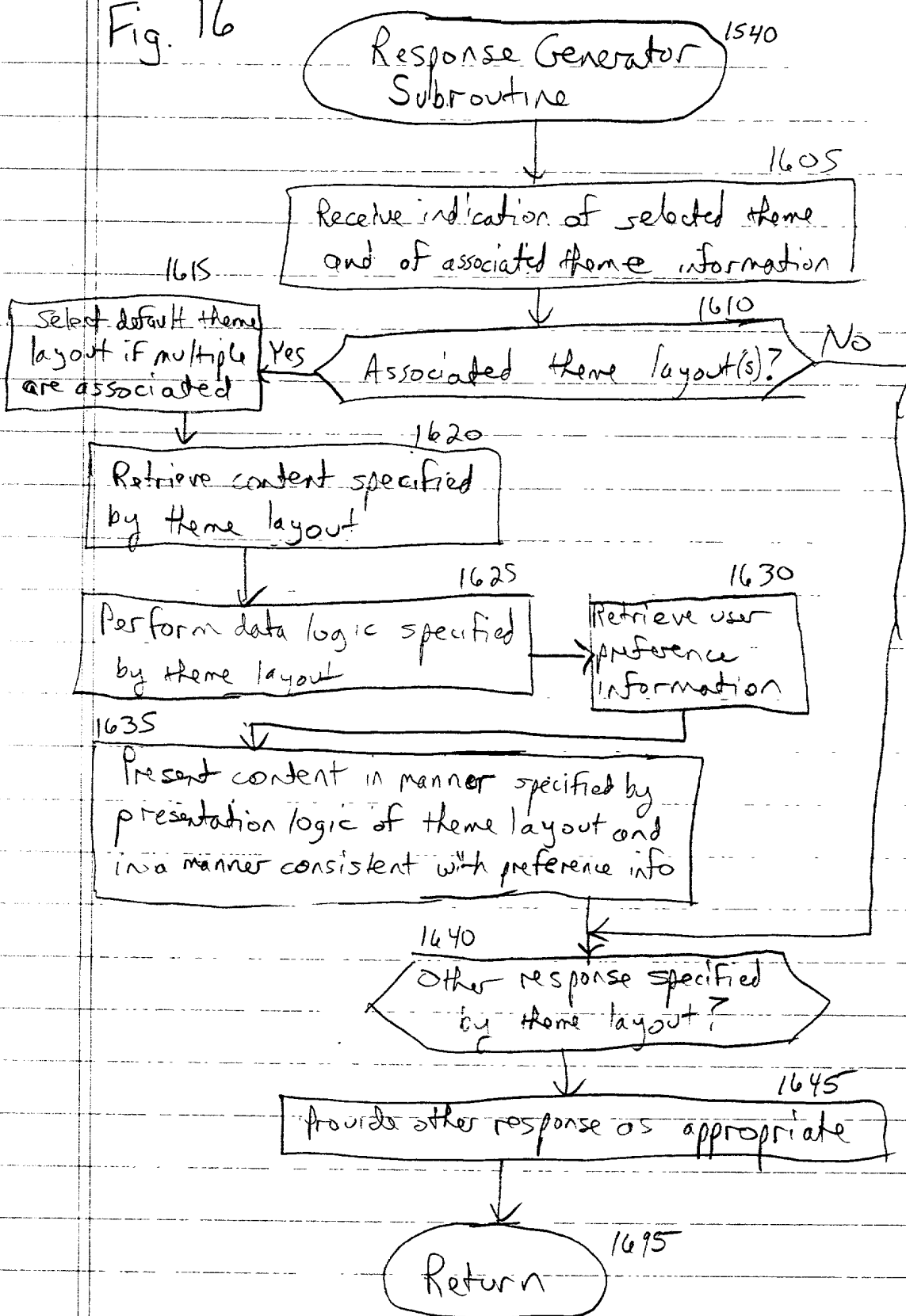
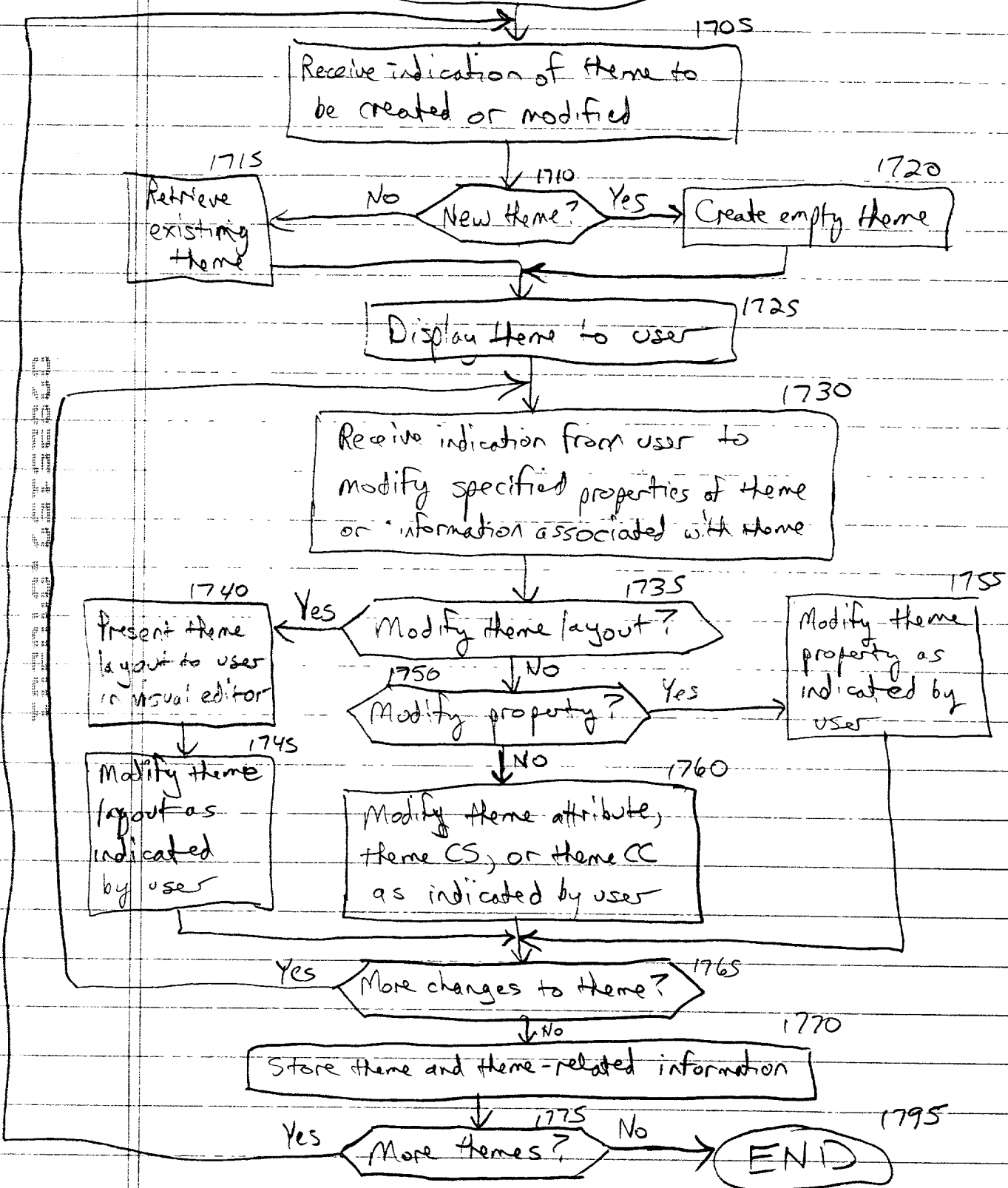


Fig. 17

1700
Theme Creator/
Modifier Routine



1800

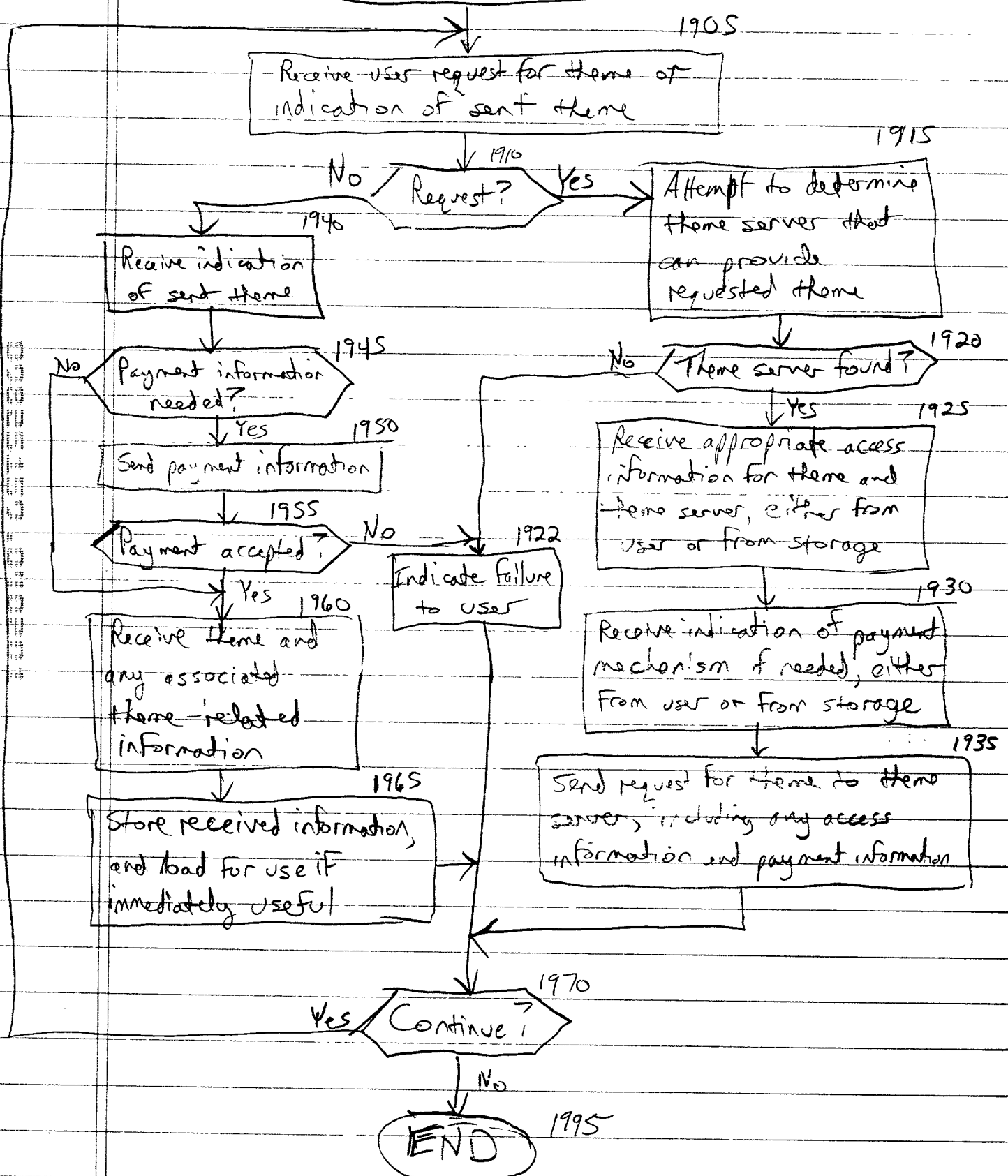
Fig. 18

Theme Distributor
Routine1805
Receive indications of available themes1810
Retrieve indications of appropriate users
for the available themes1815
Receive request for item(s) or indication
of accessible user1835
Retrieve information
about user from
database or user's
computing device1820
Request?1825
Determine if user has
provided appropriate
access information1840
Determine themes that
are appropriate for user1830
Appropriate access?1845
Determine if any needed payment
information has been provided1850
Payment provided?1855
Gather theme-related information
associated with requested or determined
themes, including the themes1860
Send gathered information to
requesting or indicated user1865
Continue?1875
END

1700

Fig. 19

Theme Receiver Routine



2000

Fig. 20

Automated Theme Customizer Routine

2005

Receive indications of available themes

2010

Repeatedly monitor user actions, including interactions with themes, modifications to themes, and explicit changes to the current theme or the current context

2015

Analyze monitored actions to determine patterns of actions

2020

Any patterns above relevance threshold?

Yes

2025

Retrieve user preference information

2030

Determine modifications to some or all themes that are consistent with patterns above the relevance threshold and with user preferences

2035

Do automated modification?

Yes

2040

Modify themes as determined

2045

Notify user of modifications

Yes

2065

Continue?

2095

END

2050

Present suggested modifications to the user

2055

Receive indications of accepted modifications

2060

Modify themes as indicated

2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075 2080 2085 2090 2095